Ownership matrix

1.0 PURPOSE AND SCOPE

This standard establishes the safety requirements for performing concrete and masonry construction.

This standard applies to all CH2M HILL Hanford Group, Inc. (CH2M HILL) employees and its subcontractors.

2.0 IMPLEMENTATION

This standard is effective on the date shown in the header.

3.0 STANDARD

3.1 Concrete

- All protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement in accordance with TFC-ESHQ-S-STD-26.
- No employee shall be permitted to ride concrete buckets.
- No employee shall be permitted to work under concrete buckets while buckets are being elevated or lowered into position.
- To the extent practical, elevated concrete buckets shall be routed so that no employee, or the fewest number of employees, is exposed to the hazards associated with falling concrete buckets.
- No employee shall be permitted to apply a cement, sand, and water mixture through a pneumatic hose unless the employee is wearing protective hand, head, and face equipment.
- Concrete mixers with one cubic yard (0.8 m^3) or larger loading skip shall be equipped with a mechanical device to clear the skip materials and a guardrail installed on each side of the skip.
- Powered and rotating-type concrete trowel machines, as described in TFC-ESHQ-S-STD-13 that are manually guided shall be equipped with a control switch that will automatically shut off the power whenever the hands of the operator are removed from the equipment handles.
- Concrete buggy handles shall not extend beyond the wheels on either side of the buggy.
- Concrete pumping systems using discharge pipes shall be provided with pipe supports designed for 100-percent overload.

- Compressed air hoses used on concrete pumping systems shall be provided with positive fail-safe joint connectors to prevent separation of sections when pressurized.

- Concrete buckets equipped with hydraulic or pneumatic gates shall have positive safety latches or similar safety devices installed to prevent premature or accidental dumping.

- Bull float handles used where they might contact energized electrical connectors shall be constructed of nonconductive material or insulated with a nonconductive sheath whose electrical and mechanical characteristics provide the equivalent protection of a handle constructed of nonconductive material.

- Masonry saw shall be guarded with a semicircular enclosure over the blade.

- A method for retaining blade fragments shall be incorporated in the design of the semicircular enclosure.

- Form work shall be designed, erected, supported, braced, and maintained so that it will be capable of supporting without failure all vertical and lateral loads that may be applied to the form work.

- All shoring equipment (including equipment used for additional shoring operations) shall be inspected prior to erection to determine that the equipment meets the requirements specified in the formwork drawings.

- Erected shoring equipment shall be inspected immediately prior to, during, and immediately after concrete placement.

- All base plates, shore heads, extension devices and adjustment screws shall be in firm contact and secured when necessary with the foundation and the form.

- Adjustment of single-point shores to raise formwork shall not be made after the placement of concrete.

- Additional shoring shall be erected as the original forms and shores are removed whenever the concrete is required to support loads in excess of its capacity.

- All vertical slip forms shall be provided with scaffolds or work platforms where employees are required to work or pass.

- Jacks and vertical supports shall be positioned in such a manner that the loads do not exceed the rated capacity of the jacks.

- Reinforcing steel for walls, piers, columns and similar vertical structures shall be adequately supported to prevent overturning and to prevent collapse.

- Forms and shores (except those used for slabs on grade and slip forms) shall not be removed until the employer determines that the concrete has gained sufficient strength to support its weight and superimposed loads.

- Do not place construction loads on a concrete structure or portion of a concrete structure unless a qualified person in structural design has determined that it is capable of supporting the loads.

- Jacks/lifting units shall be marked to indicate their rated capacity as established by the manufacturer.

- Jacking equipment shall be capable of supporting at least two and one-half times the load being lifted during jacking operations, and the equipment shall not be overloaded.

3.2 Masonry

- A limited access zone shall be established whenever a masonry wall is being constructed.

- The limited access zone shall be established prior to the start of construction of the wall.

- The limited access zone shall be equal to the height of the wall to be constructed plus four feet and shall run the entire length of the wall.

- The limited access zone shall be established on the side of the wall that does not have scaffold.

- The limited access zone shall be restricted to entry by employees actively engaged in constructing the wall. No other employees shall be permitted to enter access zone.

- The limited access zone shall remain in place until the wall is adequately supported to prevent overturning and to prevent collapse unless the height of wall is over eight feet, in which case the limited access zone shall remain in place until the requirements of wall bracing are met.

- All masonry walls over eight feet in height shall be adequately braced to prevent overturning and to prevent collapse unless the wall is adequately supported so that it will not overturn or collapse. The bracing shall remain in place until permanent supporting elements of the structure are in place.

3.3 Standard Process Description
(5.1.1)

The construction manager prepares the work package in accordance with TFC-OPS-MAINT-C-01. A subcontractor employee orientation will be held to discuss contractual, health and safety, and job site requirements to be complied with during performance of concrete or masonry work. The construction manager will verify all permits are complete and employee training requirements are met before the subcontractor begins work. The construction manager/supervisor/ESH&Q representatives oversee concrete and masonry construction activities to ensure they are performed in accordance with the applicable requirements of 29 CFR 1926, Subpart Q (5.1.1), ANSI A10.9, Sections 11 and 29 (5.1.2), and CH2M HILL Health and Safety standards and procedures. All applicable oversight results are forwarded to the project manager for further routing and filing.

4.0 DEFINITIONS

No terms or phrases unique to this standard are used.

5.0 SOURCES

5.1 Requirements

1. 29 CFR 1926, Subpart Q, "Concrete and Masonry Construction." (S/RID)
2. ANSI A 10.9, Sections 11 and 29.

5.2 References

1. TFC-ESHQ-S_IS-C-05, "Hoisting and Rigging."
2. TFC-ESHQ-S-STD-01, "Portable Ladders."
3. TFC-ESHQ-S-STD-05, "Walking/Working Surfaces."
4. TFC-ESHQ-S-STD-13, "Hand and Portable Power Tools."
5. TFC-ESHQ-S-STD-18, "Safety Signs, Tags, Barriers, and Color Coding."
6. TFC-ESHQ-S-STD-26, "Fall Protection."
7. TFC-OPS-MAINT-C-01, "Tank Farm Contractor Work Control."